

April 2014

AZ Tribal Connection

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Important Dates to Remember

Reminder!

NRCS accepts applications for all programs on a continuous basis.

Contact your local NRCS field office or Tribal liaison for more info.

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State Conservationist Update

A message from Keisha Tatem

Greetings! There is great news to share. We have a Farm Bill! This past March, Congress passed the Agricultural Act of 2014 which reauthorized several of our programs, combined some of our programs, and created some new programs that will be used to get conservation on the ground. This means that some of our program rules have changed and many of our regulations will be revised to accommodate the new legislative provisions.

This creates opportunity for our Tribal partners to identify areas where we can improve program delivery on Tribal lands. NRCS recently held electronic informational sessions through videoconferencing at multiple locations around the country. If you were unable to attend those sessions, there will be another opportunity to provide feedback. All program regulations will be posted in the federal register for public comment before being finalized. We will share when those regulations are available for public comment. Additionally, the staff here in Arizona will be conducting a formal

roll-out of the new programs in the coming months and information will be available through local field offices.

I encourage all Tribal members to reach out to your local conservation district for information as well.

Many of our conservation districts will host informational or feedback sessions for producers on the Farm Bill.

I would like to close my message this quarter with a special thank you to Mr. Manuel Savala, Chairman of the Kaibab Band of Paiute Indians. He and his staff hosted me for an entire day, showing me all the conservation measures they installed to improve their grazing lands and discussing areas where we can provide further assistance. It was such an honor for me!



Keisha L. Tatem
State Conservationist
Arizona



Chairman Savala, of the Kaibab Paiute Tribe, shares the CCC history of this water catchment with State Conservationist Tatem and other Tribal staff.

Irrigation System Operator Certification Training Course

By: Shelly Ward, District Conservationist, Parker Field Office



Water Measurement demonstration Canal showing the Stevens Recorder. Photo by Shelly Ward

The Parker Valley Natural Resource Conservation District (NRCD) Education Center sponsored an Irrigation System Operator Certification training course at the Natural Resources Conservation Service (NRCS) field office this April. The Colorado River Indian Tribes (CRIT) Irrigation Committee Chairman, Rudy Buckelew, requested a training course to help educate potential applicants for up to 18 irrigation system operator positions that will soon be offered by the Bureau of Indian Affairs (BIA). The purpose of the Irrigation System Operator Certification Training course is to educate participants who would like to become irrigation system operators.

The training facilities at this site represent an interagency cooperative effort designed to bring irrigation water measurement education and promote the efficient use of water resources to the Greater Southwest. The Partners include Arizona Western College (AWC), University of Arizona (U of A) Extension, BIA, Bureau of Reclamation (BOR), Future Farmers of America (FFA), NRCS, and the Parker Valley NRCD.

There were four modules to this professional development course. The training included operating instructions to adequately, safely, and reliably operate an irrigation system. The curriculum was a combination of classroom discussion, equipment demonstrations, and laboratory workshops.

Students participated in a hands-on flow measurement demonstration that used the various measurement technologies installed at the Parker Valley NRCD and NRCS field office. These flow measurement structures include flumes, weirs, meter gates, electronic flow measurement and area/velocity methods.

During the discussion and presentation portion, the class covered canal flow control devices, stop logs, vertical slide gates, radial gates, overshot gates and pipe valves. They also discussed benefits and drawbacks of different canal operating methods including upstream control, downstream control, and constant volume control.

The lab workshop portion of the course included a hands-on level sensor calibration training of a submersible pressure transducer, a bubbler sensor, and an acoustic Doppler sensor.

“This was a very successful event,” said Jim Krahenbuhl, Parker Valley NRCD board member and education center director. “We had an excellent team of presenters throughout the training who know this stuff inside-and-out and that really helped the students understand the material.” He later said that, “This course was an excellent educational opportunity and we plan on doing more of these in the future.”



Partners and Mission Statement for demonstration canal. Photo by Shelly Ward

Hualapai Tribe Teams up with NRCS to Help Mother Nature

By Erin Mathews, District Conservationist, Kingman Field Office

The Hualapai Reservation is located on the beautiful Colorado Plateau with 108 miles of the Colorado River in the Grand Canyon. The Hualapai tribe has five grazing districts encompassing over 700,000 acres of grazing land for livestock and native elk populations through its reservation. Each grazing district has a Grazing Association comprised of livestock members from The Hualapai Tribe.

The Hualapai Soil & Water Conservation District has over a 15 year relationship with the local Kingman NRCS office, coordinating with the Tribe's Department of Natural Resources in getting conservation on the ground, addressing resources concerns, and increasing sustainability.

Through this coordination, The Hualapai Tribe has successfully worked with the NRCS with multiple financial assistance programs administered by the Natural Resources Conservation Service on their grazed rangeland to address existing resource concerns. The financial assistance programs have assisted the tribe in completing several conservation projects improving the landscape for both livestock and wildlife.

The Wildlife Habitat Incentives Program (WHIP) is utilized on several grazing districts to benefit not only the local Pronghorn Antelope populations but other grassland dependent species. This program allowed the tribe to treat over 2,000 acres with brush management treatments, with over 2,500 acres still planned to be completed. These treatments have been completed on Juniper invaded grassland communities. Juniper has increased to the point of causing an imbalance between herbaceous and woody plant species in these communities which at one time were plateaus dominated by mixed grasses. This imbalance not only impacts the structure and composition of the plant community, but can also cause additional resource concerns such as reduced soil site stability and non-functioning hydrologic cycles. Removing the Juniper will give the grass component of the community an opportunity to recolonize the opened areas in favorable years.

Conservation plans have been written for the

different grazing districts identifying resource concerns and possible conservation practices such as water improvement projects that can be used to increase livestock distribution. This increased distribution is used to create new grazing use patterns which will provide grazing and rest periods in each area of the ranch to allow grazed plants to re-grow, regain vigor, produce seed, and establish new plants. The Hualapai Tribe has successfully implemented these new watering facilities with the assistance of the Environmental Quality Incentives Program (EQIP) installing new pipelines, storage tanks, and troughs. One of these projects entailed installing over 15 miles of new pipeline with watering facilities to benefit both the management of the livestock as well as providing additional water sources for the local wildlife populations. All watering facilities were made safe for wildlife with the construction of wildlife escape ramps. The NRCS worked in conjunction with the AZ Game and Fish and the Hualapai Department of Natural Resources to conduct a workshop which trained participants on the importance of wildlife ramps and taught the participants how to actually construct the ramps.

The Hualapai Tribe continues to enhance the stewardship level achieved completing a contract through the Conservation Stewardship Program (CSP). They not only have completed projects outlined by the program, including recycling all of the lubricants used in the operation and maintaining key grazing areas to improve grazing management but have also made funds available for maintenance based projects. These projects entail maintaining fences which are important to grazing management as well as the improvement of water catchments which are available to both livestock and wildlife.

The NRCS and the Hualapai SWCD and the Hualapai Tribe continue to look for additional opportunities to work with tribal members building on existing conservation plans. These updated plans are continually identifying new conservation practices that will benefit the tribal members and ensure the partnership continues in the future.



Habitat opened up after the removal of Juniper trees. Photo courtesy of Annette Bravo



Installation of new storage tanks Photo courtesy of Annette Bravo



Cleaned out dirt tank and installed concrete barriers to reduce erosion. Photo courtesy of Annette Bravo

For more information on the Hualapai Tribe, visit <http://hualappai-nsn.gov>

Solar--Powered Irrigation Pumping Demonstration Project at North Leupp Family Farms

By: Shawn Newell, Associate of Tó Lání Enterprises



Ribbon Cutting at North Leupp Family Farms, September 2013. Photo by Shawn Newell

Get Involved

NRCS accepts applications for all programs on a continuous basis. Contact your local NRCS field office or Tribal liaison for more info.

www.az.nrcs.usda.gov



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Tó Lání Enterprises (TLE) received a Conservation Innovation Grant from the USDA Natural Resources Conservation Services in 2012 to conduct a three-year national pilot project to demonstrate the environmental, agricultural, economic, socio-cultural effectiveness and benefits of solar energy systems for pumping irrigation-quantities of water; and to encourage and facilitate the adoption of such systems among Navajo, Hopi and other Tribal Conservation Districts, farmers and ranchers in the arid and semi-arid Southwest. Felix Nez, District Conservationist for NRCS, was instrumental throughout the entire grant process.

Most producers on Navajo Nation are rural and live beyond the reach of the grid, so the producers must choose from diesel-generated power or renewable energy options. With 96 percent of Navajo farmers making little or no positive return from their operations, start-up and operating costs must be low.

One of the principal technological innovations under investigation in this project is Photovoltaic (PV) direct water pumping for irrigation on sites capable of commercial production (10 acres and up). In PV direct pumping systems, solar arrays are connected directly to a pump. The pumps only run when the sun is shining. This technology has been used most commonly for pumping domestic and livestock water, but has not been commonly used for irrigated farming. The other innovation under investigation is comparing solar tracking with fixed PV panel arrays for this application.

In year one, TLE worked with more than 10 partner organizations including the Little Colorado River Soil and Water Conservation District and the Hopi Conservation District to design, install, operate, and monitor a 21.2 KW PV direct water pumping system at North Leupp Family Farms, Inc. (NLFF). NLFF is a 100-acre farm near the Little Colorado River about five miles north of Leupp, Arizona on the Navajo Nation. The farm has allotted small plots for 20 to 30 community-member farmers. Part of the North Leupp Family Farms mission is to provide educational outreach on healthy food, be a sustainable agriculture enterprise, grow crops for market, and be a partner in Farm to School programs with STAR School and Leupp School. All NLFF farmers are limited resource farmers.

The solar PV system at NLFF is an innovative dual-axis racking system manufactured by a local company, Sedona Solar Technology. Installation was completed in early August 2013. During the remainder of the growing season, the system provided sufficient power to run the 15 HP, 480 V AC well pump for irrigation during a six-hour window, roughly between 9:30 am and 3:30 pm. A pump test conducted demonstrated a PV direct flow rate of 360 gallons per minute (GPM) compared to 436 GPM when powered by the on-site 125 kW diesel generator. During the pump test, the pump controller indicated the array was producing power at about 80 percent efficiency (decreased efficiency related to high temperatures), which accounts for the difference in pumping capacity.



Top -First water pumped with the sun, North Leupp Family Farms. Right— Dual Axis Tracking PV Array Photos by Shawn Newell



Conservation Assistance for Tribes Web Pages

Visit our new Conservation Assistance for Tribes web pages! We have information on Conservation Planning and Programs, links and contact information for our partners working with NRCS, past issues of the Tribal Connection Newsletter, and other resources to 'help you help the land'.

Visit www.az.nrcs.usda.gov and click on the "Conservation Assistance for Tribes" button on the right.